REMARKS/ARGUMENTS

Amendments to the specification

The attorney docket number has been replaced with the application serial number for the copending application referred to in the section entitled "Related Applications".

Claim Objections

Claim dependency error in Claim 24

Applicants have amended claim 24, such that claim 24 depends on claim 23. Applicants submit that the amendment to claim 24 overcomes the Examiner's objections provided in Page 10, Item 34 of the Office Action.

Objected but Allowable claims 5, 6, 8, 10, 11, 14, 15, 17, 23, 24, 26, 28, 29, 32, 33, 35, 41, 42, 44, 46, 47, 50, 51, 53

Claims 5, 6, 8, 10, 11, 14, 15, 17, 23, 24, 26, 28, 29, 32, 33, 35, 41, 42, 44, 46, 47, 50, 51, 53 have been objected to by the Examiner as being dependent upon a rejected base claim. However the Examiner has mentioned that these claim would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants traverse the Examiner's objections to claims 5, 6, 8, 10, 11, 14, 15, 17, 23, 24, 26, 28, 29, 32, 33, 35, 41, 42, 44, 46, 47, 50, 51, 53 because these claims depend directly or indirectly on the pending independent claims 1, 19, 37 and Applicants submit arguments below for the patentability of the independent claims 1, 19, 37.

Claim Rejections under 35 U.S.C. 101

Applicants have amended claim 37 and submit that amended claim 37 overcomes the Examiner's rejection ounder 35 U.S.C. 101 of claim 37. Applicants direct the Examiner's

attention to page 12, lines 1-16 of the Application, where the article of manufacture includes a

computer readable medium on page 12, line 4 of the Application. Applicants have included the

term "computer executable instructions" and the language "wherein the computer executable

instructions cause operations" in the amended claim 37. Applicants submit that the amended

claim 37 overcomes the Examiner's rejection of claim 37 under 35 U.S.C. 101.

Claim Rejections (under 35 U.S.C. 102)

The Examiner has rejected claims 1-4, 7, 9, 12, 13, 16, 18-22, 25, 27, 30, 31, 34, 36-40,

43, 45, 48, 49, 52, 54 as being unpatentable under 35 U.S.C. 102(b) in view of Powers (US

5,212,785) Applicants traverse.

Independent claims 1, 19, 37

Independent claims 1, 19, 37 provide a method, system, and article of manufacture

for processing Input/Output (I/O) requests to a storage network including at least one storage

device and at least two adaptors, wherein each adaptor is capable of communicating I/O requests

to at least one storage device, comprising:

detecting an error in a system including a first adaptor, wherein the first adaptor is

capable of communicating on the storage network after the error is detected;

determining whether the first adaptor is designated a master of the storage network after

the error is detected;

starting a master switch timer that is less than a system timeout period if the first adaptor

is the master after detecting the error, wherein an error recovery procedure in the system

including the first adaptor is initiated after the system timeout period has expired; and

initiating an operation to designate another adaptor in the storage network as the master if

the first adaptor is the master in response to detecting an expiration of the master switch timer.

The Examiner has rejected independent claims 1, 19, 37 under 35 U.S.C. 102(b) as being unpatentable over the cited Powers (col. 1, lines 50-55; col 2: lines 1-5; col. 3, lines 65-68; col. 4, lines 1-5; col. 7: lines 11-14; col. 7: lines 24-30; col. 7: lines 65-67; col. 8, line 1).

The cited Powers discusses that in the event of a failure of a "second level" controller, the routing between "first level" controllers and memory devices is switched to a properly functioning "second level" controller (cited Powers: Abstract).

Nowhere does the cited Power teach or disclose the claim requirement of initiating an operation to designate another adaptor as the master if the first adaptor is the master, in response to detecting an expiration of the master switch timer that is less than a system timeout period.

The Examiner mentions that lines 65-67 of col. 7 and line 1 of col. 8 of the cited Power discusses the claim requirement of initiating an operation to designate another adaptor in the storage network as the master if the first adaptor is the master, in response to detecting an expiration of the master switch timer (the Examiner has mistyped the master switch timer as one started I/O delay timer). Lines 65-67 of col. 7 to line 1 of col. 8 of the cited Power discusses that a "second level" controller ends up in "BOTH STATE". Additionally, according to the cited Power (Power: col. 5: lines 56-59) being in BOTH STATE indicates that a second level controller has control of the disk drives of both second level controllers. Therefore, the cited Power discusses that a "second level" controller takes control of the disk drives of both "second level" controllers. However, the claims require the following:

1) detecting an expiration of the master switch timer that is less than a system timeout period

2) in response to detecting the expiration of the master switch timer, designating another adapter as the master if the first adapter is the master.

Lines 65-67 col. 7 and line 1 of col. 8 of the Examiner cited Power discusses that the first adapter takes over control of disk drives of both adapters. Nowhere does the cited Power teach or disclose the claim requirement that designates another adaptor as the master if the first adaptor is the master, in response to detecting an expiration of the master switch timer that is less than a system timeout period.

Additionally, while the cited Power discusses that when a timeout counter expires (Power col. 7: lines 11-14) the other second level controller takes control of the primary set of disk drives. Nowhere does the cited Power teach or disclose the claim requirement of detecting an expiration of the master switch timer that is less than a system timeout period. While the cited Power discusses the expiry of a timeout counter, nowhere does the cited Power teach or disclose the claim requirement of a system timeout period, where the claims require detecting an expiration of the master switch timer that is less than a system timeout period.

Therefore, nowhere does the cited Power teach or disclose the claim requirement of of initiating an operation to designate another adaptor as the master if the first adaptor is the master in response to detecting an expiration of the master switch timer that is less than a system timeout period.

For the above reasons, claims 1, 19, 37 are patentable over the cited art.

Dependent Claims 2-18, 20-36, 38-54

The Examiner has also rejected or objected to pending claims 2-18, 20-36, 38-54. These claims are patentable over the cited art because they depend directly or indirectly on independent claims 1, 19, 37 which are patentable over the cited art for the reasons discussed above. Furthermore, the following of these claims provide additional grounds of patentability over the cited art for the reasons discussed below.

Claims 7, 25, 43

Claims 7, 25, 43 depend on independent claims 1, 19, 37 respectively and further require:

initiating a monitoring state to monitor I/O requests transmitted through a second adaptor in response to detecting the error;

starting an I/O delay timer that is less than the system timeout period in response to receiving an I/O request; and

sending a reset request to the first adaptor in response to detecting an expiration of one started I/O delay timer.

The Examiner has mentioned that the cited Power (lines 13-21 of col. 2) discusses the claim requirement of initiating a monitoring state to monitor I/O requests transmitted through a second adaptor in response to detecting the error. Lines 13-21 of col. 2 of the cited Power discusses that the logical configuration of the disk drives remain constant from the perspective of the computer even when a controller fails. Nowhere, does the cited Power teach or disclose the claim requirement of a monitoring state that monitors I/O requests transmitted through a second adaptor in response to detecting the error.

Additionally, the claims require a master switch timer (required in the independent claims on 1, 19, 37 which claims 7, 25, 43 depend), an I/O delay timer and a system timeout period. While the Examiner cited Power (lines 11-14 of col. 7; lines 24-30 of col. 7) discusses a timer and a time out, nowhere does the Examiner cited Power teach or disclose the claim requirement of a master switch timer and an I/O delay timer. The cited Power discusses a single timer that times out, whereas the claims require a master switch timer and an I/O delay timer and nowhere are these claim requirements taught or disclosed by the cited Power.

For the above reasons, claims 7, 25, and 43 are patentable over the cited art.

Claims 12, 30, 48

Claims 12, 30, and 48 depend on claims 1, 19, and 37 respectively, wherein the detected error indicates that the first adaptor is unable to communicate to the system housing the first adaptor.

The Examiner has mentioned that the cited Power (lines 23-27 of col. 2) discusses that the controller can suffer a complete failure, which results in a total lack of communication with the memory devices. Nowhere does the cited Power teach or disclose the claim requirement that the detected error indicates that the first adaptor is unable to communicate to the system housing the first adaptor. The cited Power discusses a complete failure of the controller which is different

from the claim requirement of the detected error indicating that the first adaptor is unable to communicate to the system housing the first adaptor. The cited Power does not teach or disclose the claim requirement of the detected error making an indication.

For the above reasons, claims 12, 30, and 48 are patentable over the cited art.

New claims 55-57

New claims 55, 56, 57 depend on claims 1, 19, 37 respectively, wherein a reset request is sent to an identifier of the first adapter after the master switch timer expires. The requirements of new claims 55, 56, 57 may be found at least in original claim 5 of the Application and nowhere does the cited art teach or disclose the claim requirements of these new claims.

New claims 58-60

New claims 58, 59, 60 depend on claims 1, 19, 37 respectively, wherein the master switch timer is less than an I/O delay timer that is less than the system timeout period. The requirements of new claims 58-60 may be found in at least original claims 7 and 8 of the Application and nowhere does the cited art teach or disclose the claim requirements of these new claims.

New claims 61-63

New claims 61, 62, 63 depend on claims 1, 19, 37 respectively, wherein the first adapter is in a first computer system and wherein the second adapter is in a second computer system. The requirements of new claims 61-63 may be found in at least original claims 14 and 15, in FIG. 1 and the corresponding description, of the Application, and nowhere does the cited art teach or disclose the claim requirements of these new claims.

Conclusion

For all the above reasons, Applicant submits that the pending claims are patentable over the art of record. Applicants have indicated appropriate fees for 9 new dependent claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0449.

The attorney/agent of invites the Examiner to contact him at (310) 557-2292 if the Examiner believes such contact would advance the prosecution of the case.

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